Supplementary Figures

Suppl. Fig. 1. Amplification of T4-like phage NPC 1000 on *E. coli* strain K-12 in a 20 L stirred tank reactor. The time course after inoculation of the broth with K-12 bacteria is given on the abscissa. The infection time with phage NPC 1000 is indicated by the vertical line at 60 min. The growth of the bacterial culture was followed by OD reading (filled squares) and the growth of phage by infectivity titration. The phage titers are given as pfu/ml with standard error of means on a logarithmic scale (open diamonds).

Suppl. Fig. 2. Cell-association and PEG precipitation of phage NPC 1000 produced on two different *E. coli* host cells. A. Relative percentage of NPC 1000 infectivity found in the supernatant (SN, light gray bar) and associated with the cell pellet (dark grey bar) for *E. coli* host K-12 (left) and B strain (right). B. Percentage of phage recovered by PEG precipitation from the supernatant of *E. coli* strain K-12 (left) and strain B (right) infected with NPC 1000.

Suppl. Fig. 3. Phage infectivity loss resulting from ultracentrifugation and sterile filtration. A. *E. coli* strain K-12 was infected by the NPC phages indicated on the abscissa. The lysate was first passed through 0.22 µm Stericup filters and the phage was then recovered by ultracentrifugation. The titer loss (expressed as log pfu loss with respect to the titer in the lysate) were plotted for the filtration (white bars) and ultracentrifugation (black bars) step indicating negligible titer loss by filtration and substantial titer loss by ultracentrifugation for half of the investigated phages. B. The pellet of the phage recovered by ultracentrifugation was resuspended and underwent a second round of filtration through 0.22 µm membranes. Substantial titer losses were now observed after filtration suggesting aggregation of phage. Reference value was the titer of the indicated phage after ultracentrifugation.
Error bars refer to the standard error of the mean.

Suppl. Fig. 4. T4-like phage concentration by medium speed centrifugation. A. Phage infectivity titers are given for the indicated T4-like phage isolates on a $\log_{10}$ scale. Black bars represent the titer in the lysate, grey bars those found in the pellet after medium speed centrifugation and white bars give the titers remaining in the supernatant after centrifugation. B. Negative stain electron microscopy picture of T4-like phage NPC 1000 pelleted by medium-speed centrifugation.

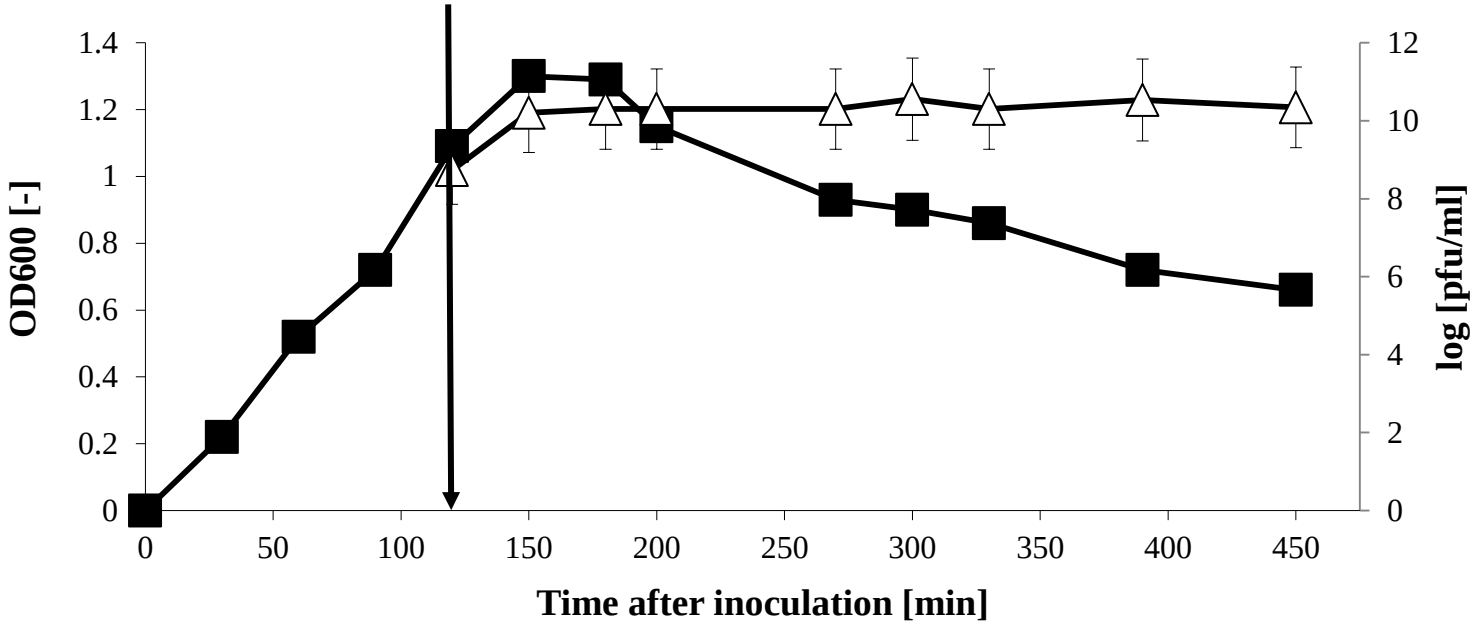
Suppl. Fig. 5. Phage recovery by DEAE cellulose adsorption. To the supernatant of K-12 cells infected with NPC1000 DEAE cellulose was added at 1, 5 and 10 % w/v concentration as indicated on the abscissa and the bars represent the percentage of phage recovered on DEAE cellulose compared to the phage infectivity present in the lysate (ordinate). Error bars refer to the standard error of the mean.

Suppl. Fig. 6. Phage infectivity loss due to ultrafiltration. The NPC phages indicated on the abscissa underwent ultrafiltration using a 30 kDa cut-off . The bars give the titer loss with respect to the titer in the supernatant of the lysate before ultrafiltration expressed as log pfu decrease.

Suppl. Fig. 7. LPS contamination level inT4-like bacteriophages prepared by different methods. The LPS concentration in kEU/ ml (ordinate) for the phages indicated with their NPC number on the abscissa as prepared by ultracentrifugation (white bars), by chromatography on BiaSeparations column (black bar) and ultrafiltration (grey bars). Chromatography was only done with NPC 1004, 1006 and 1008, while ultracentrifugation and ultrafiltration was done with all indicated phages. Error bars refer to the standard error of the mean.

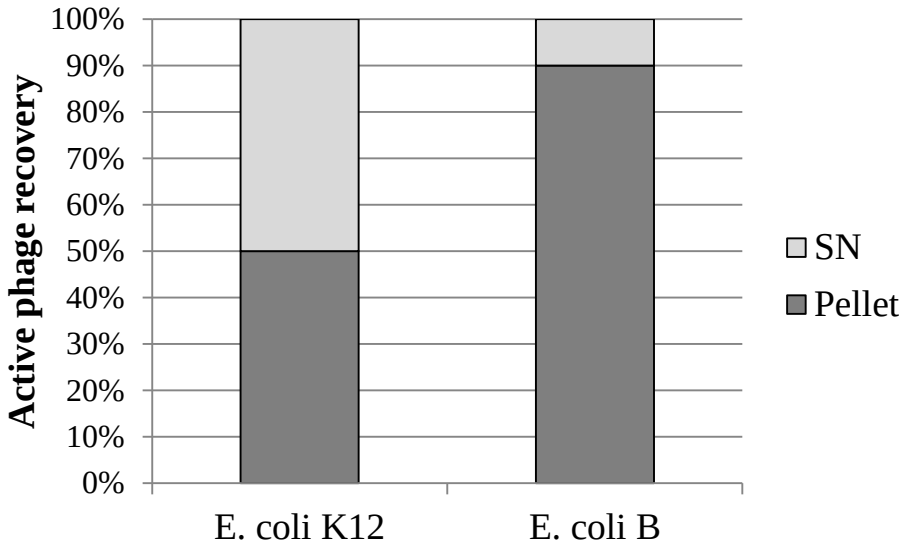
Suppl. Fig. 8. MALDI TOF spectra of (A) T4-like phage NPC 1002, (B) lysed uninfected *E. coli* cell.

Suppl. Fig. 9. Short term thermal stability of T4-like phage at different temperatures. T4-like phage NPC 1000 was heated at 30°C (circles), 40°C (diamonds), 50°C (triangles) and 70 °C (squares) for the indicated time in minutes (abscissa). Residual infectivity titer with error bars after the indicated times in minutes are given as log pfu /ml infectivity titer on the ordinate.

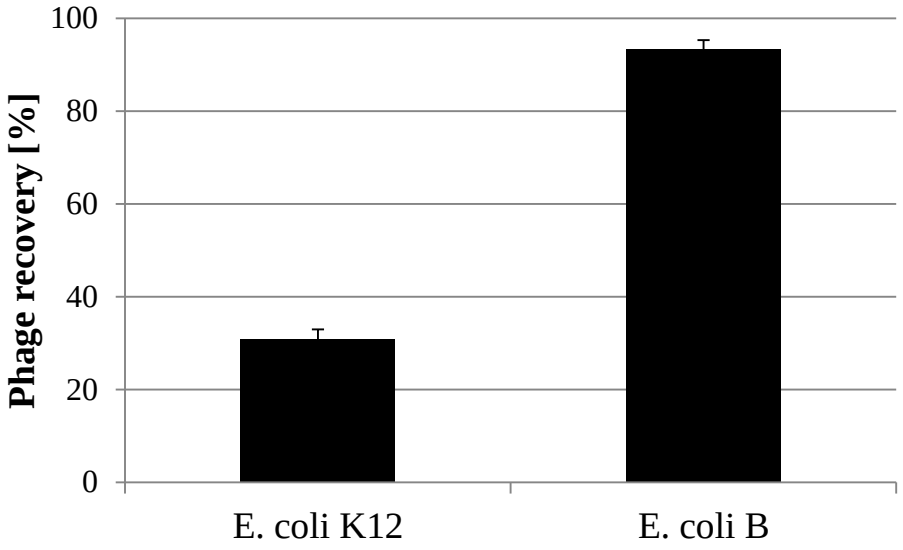

OD600 [-]
log [pfu/ml]
Time after inoculation [min]
0
0.2
0.4
0.6
0.8
1
1.2
1.4
0
2
4
6
8
10
12
0
50
100
150
200
250
300
350
400
450

Suppl. Fig. 1.

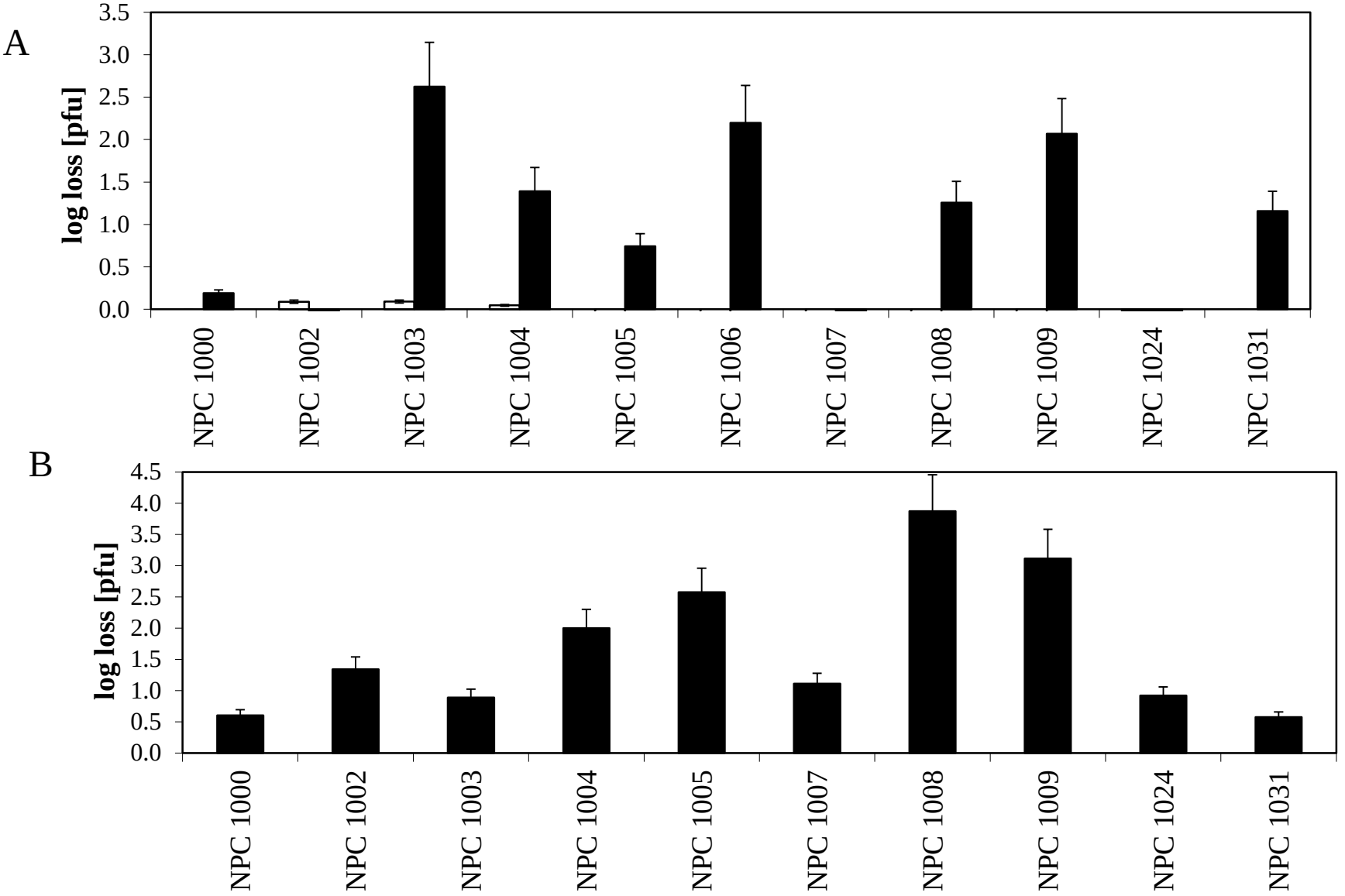
A



B

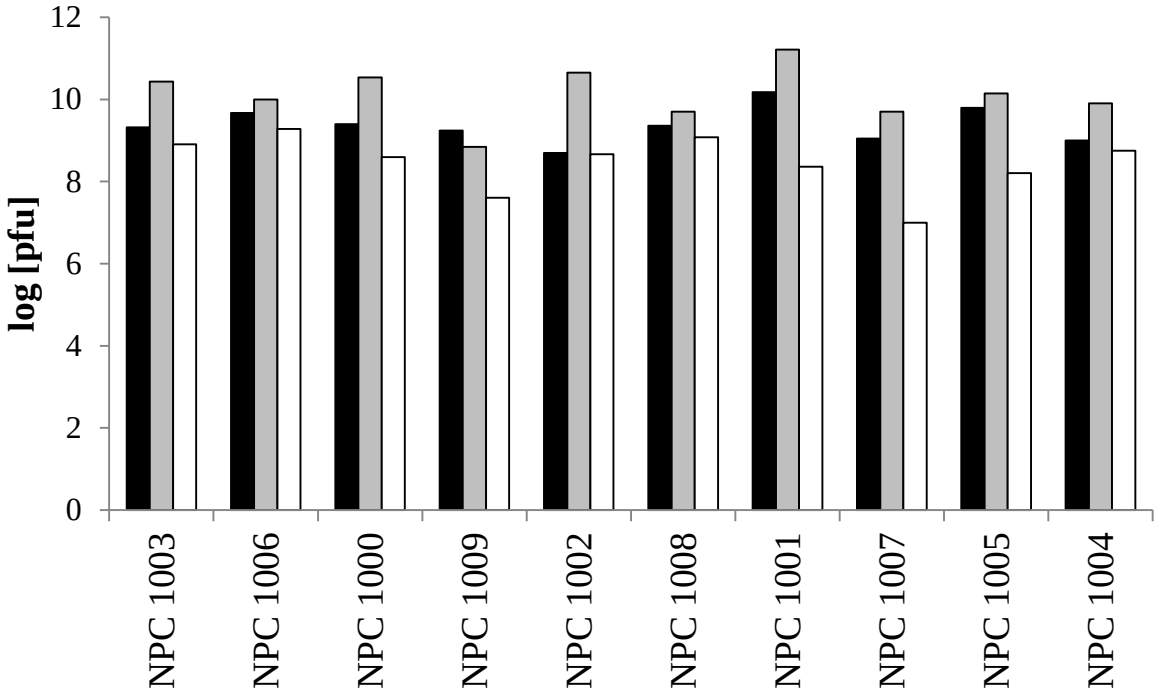


Suppl. Fig. 2.

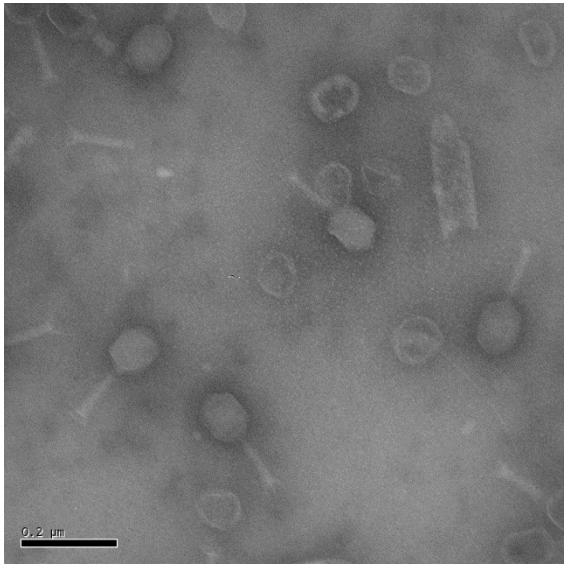

A
log loss [pfu]
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
NPC 1000
NPC 1002
NPC 1003
NPC 1004
NPC 1005
NPC 1006
NPC 1007
NPC 1008
NPC 1009
NPC 1024
NPC 1031
B
log loss [pfu]
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
NPC 1000
NPC 1002
NPC 1003
NPC 1004
NPC 1005
NPC 1007
NPC 1008
NPC 1009
NPC 1024
NPC 1031

Suppl. Fig. 3.

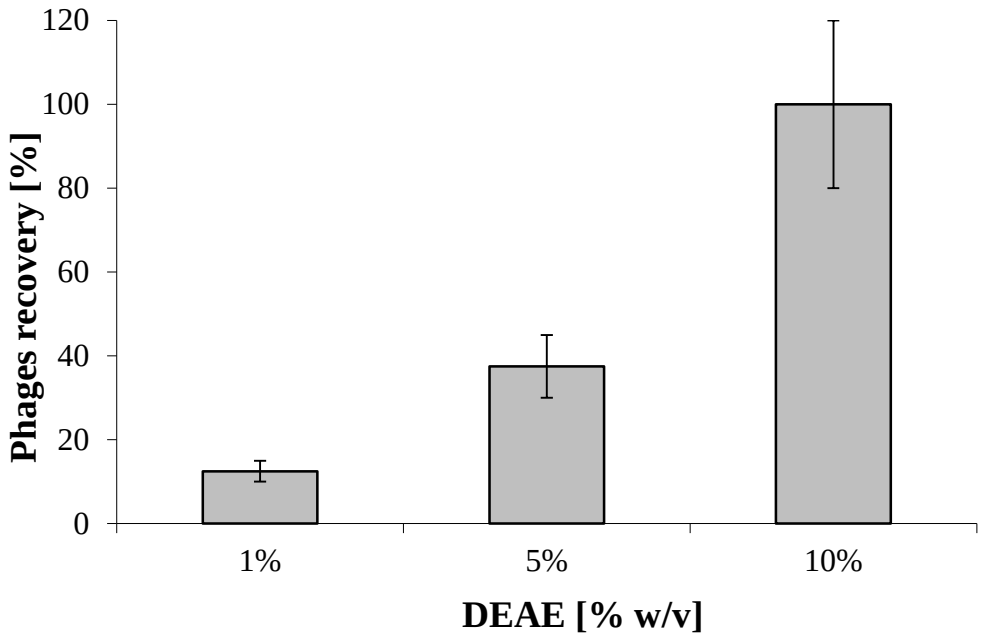
A



B



Suppl. Fig. 4.



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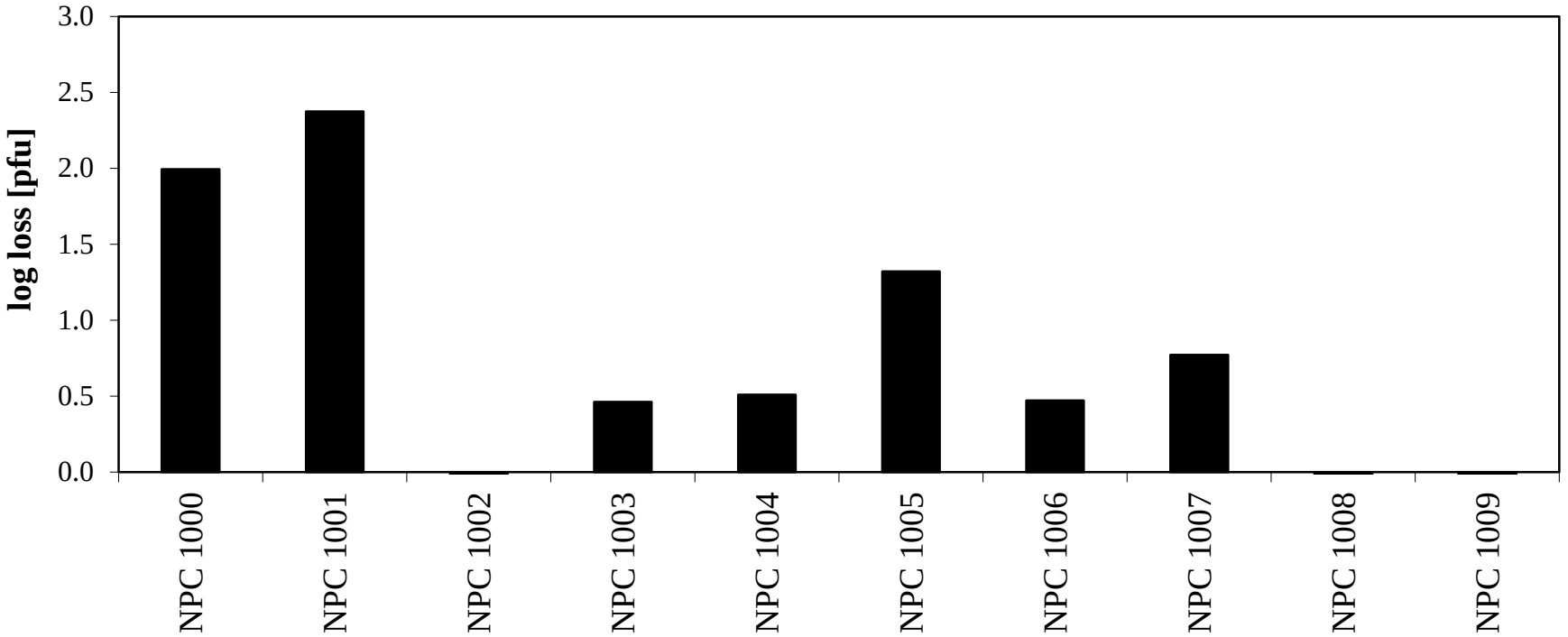
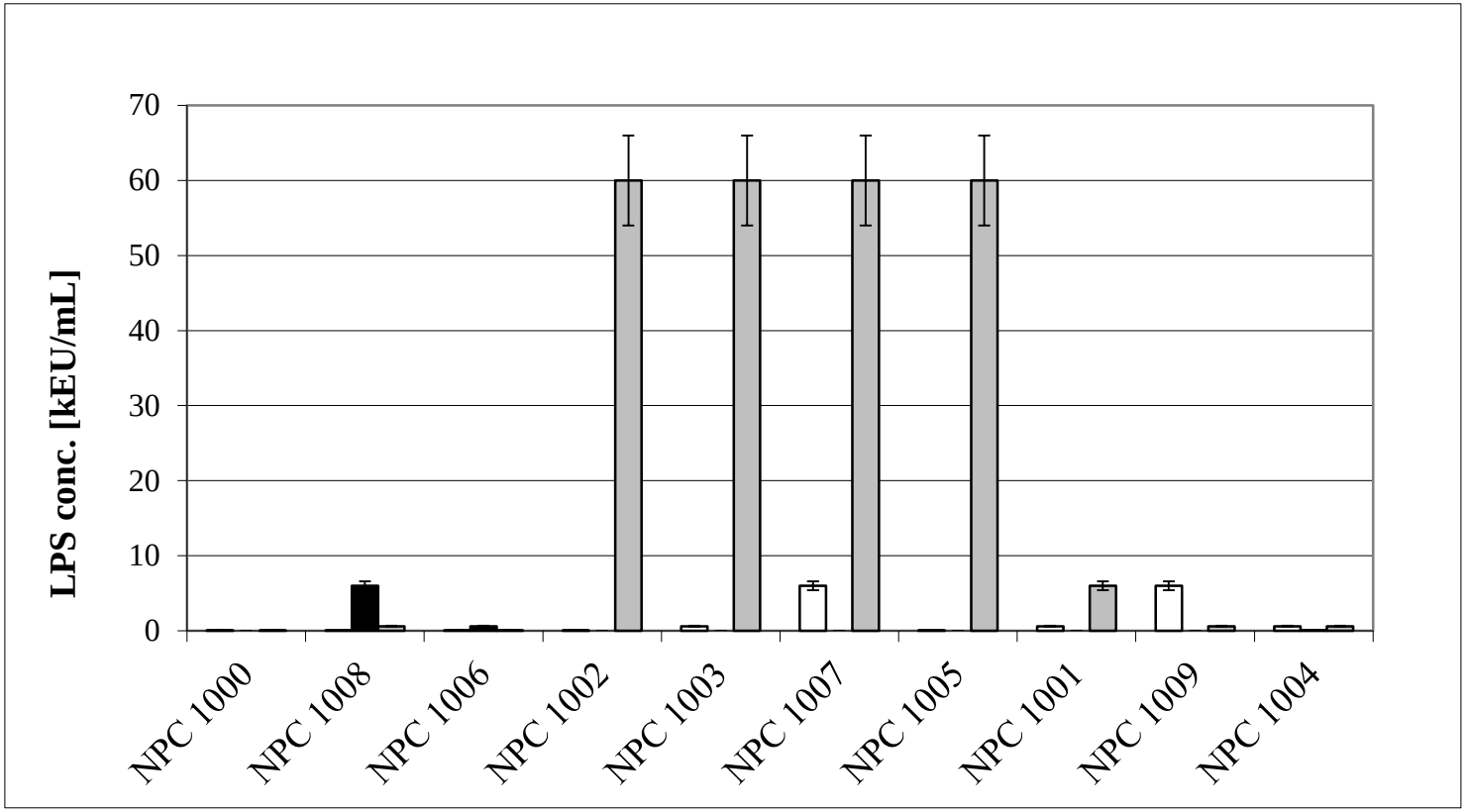
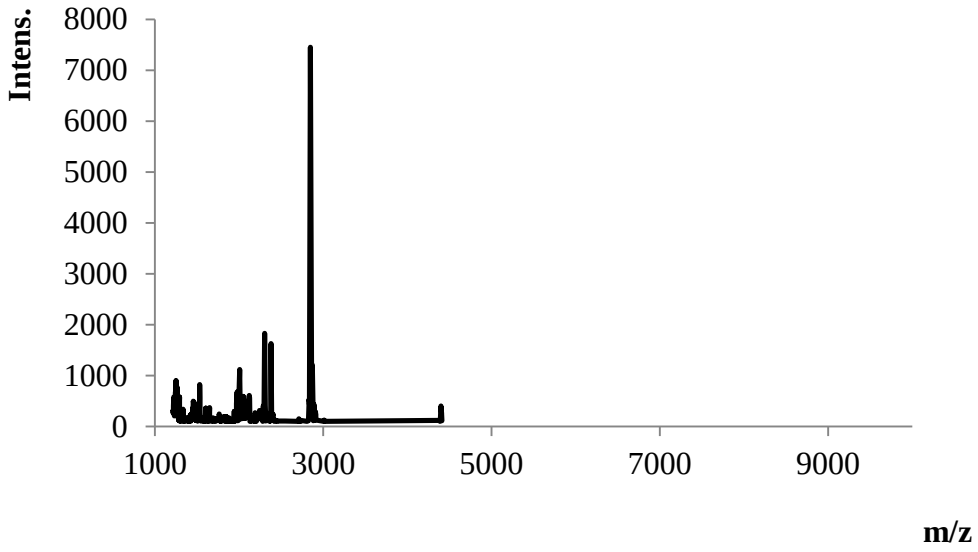

log loss [pfu]
3.0
2.5
2.0
1.5
1.0
0.5
0.0
NPC 1000
NPC 1001
NPC 1002
NPC 1003
NPC 1004
NPC 1005
NPC 1006
NPC 1007
NPC 1008
NPC 1009

Suppl. Fig. 6.

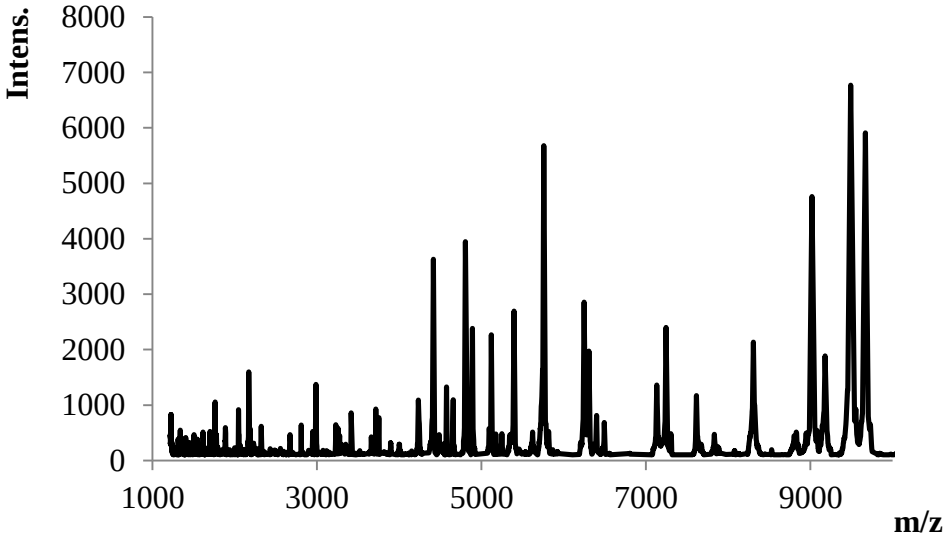

LPS conc. [kEU/mL]
70
60
50
40
30
20
10
0
NPC 1000
NPC 1008
NPC 1006
NPC 1002
NPC 1003
NPC 1007
NPC 1005
NPC 1001
NPC 1009
NPC 1004

Suppl. Fig. 7.

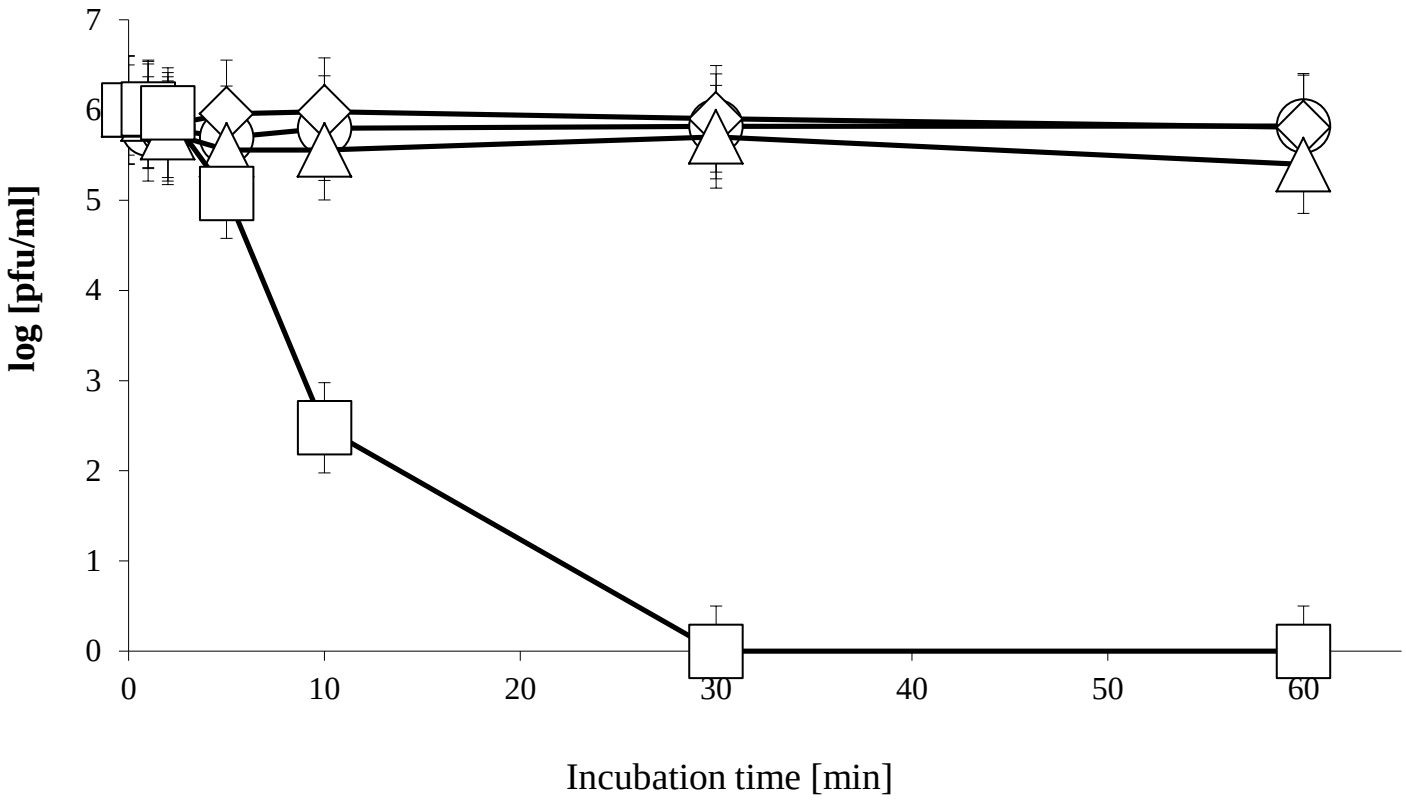
A



B



Suppl. Fig. 8.



Suppl. Fig. 9.